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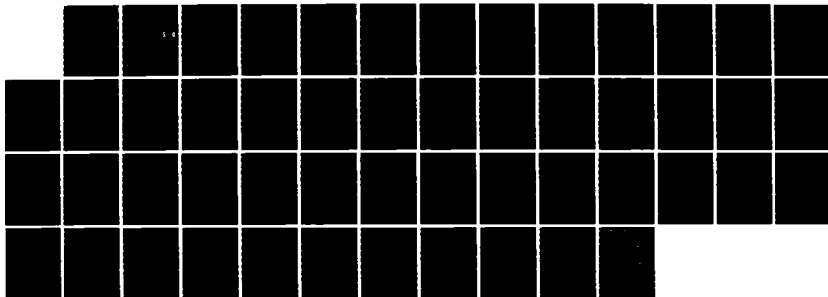
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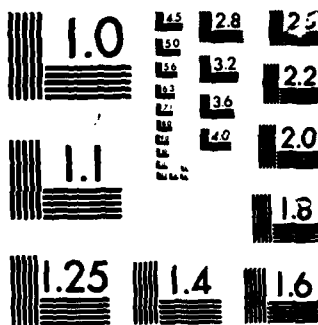
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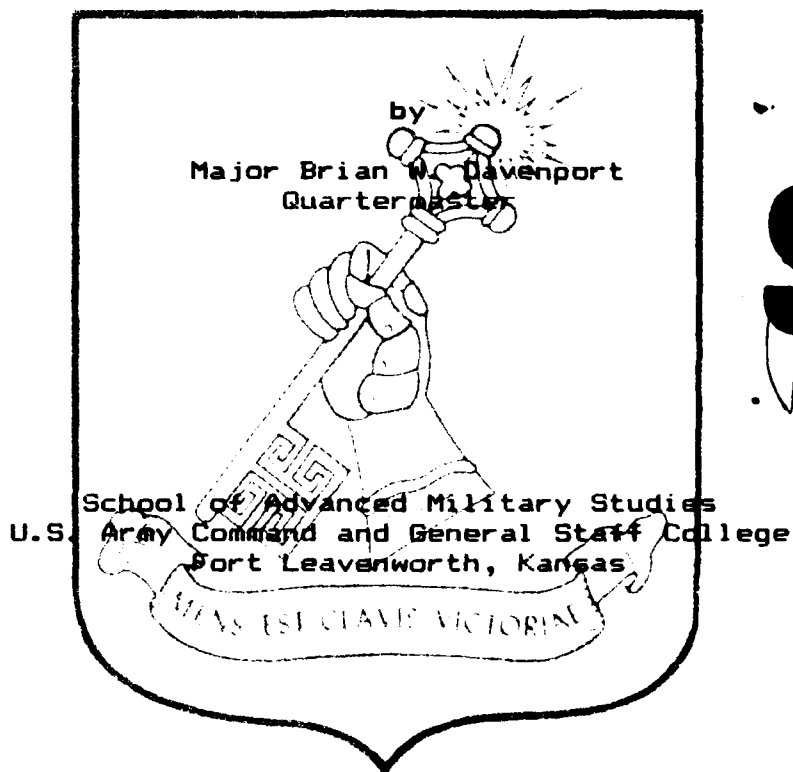
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Tactical Survivability of  
Divisional Combat Service Support  
Units on the AirLand Battlefield



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The study concludes that divisional CSS units are not adequately equipped or tactically trained to survive on the AirLand battlefield. The study also includes recommendations to overcome the perceived shortfalls in CSS equipment and training.



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**Tactical Survivability of  
Divisional Combat Service Support  
Units on the AirLand Battlefield**

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# ABSTRACT

TACTICAL SURVIVABILITY OF DIVISIONAL COMBAT SERVICE SUPPORT UNITS ON THE AIRLAND BATTLEFIELD, by Major Brian W. Davenport, USA, 43 pages.

This study examines the problem of tactical survivability for divisional CSS units on the AirLand battlefield. In exploring this issue the study focuses on (1) Soviet threat forces capable of interdicting divisional rear areas; (2) the US Army's rear battle doctrine outlining tactical responsibilities for CSS units; and (3) the tactical adequacy of current CSS equipment and training.

The Soviet Union in its military doctrine and force structuring continues to place great emphasis on developing multiple techniques and means to exploit deep into the enemy's rear areas. The US Army's rear battle doctrine relies upon a system of mobile reaction forces and static defenses to protect our rear areas from the Soviet threat. Reaction forces by design are committed to a situation after the fact, therefore. CSS units will initially be required to engage enemy combat forces, a mission for which they are poorly equipped and inadequately trained. The development and fielding of survivable CSS equipment has not kept pace with weapons development in our combat units. CSS training has not placed an adequate emphasis on developing tactical skills in CSS organizations or its soldiers. The concentration of effort in CSS training is on technical skill training.

The study concludes that divisional CSS units are not adequately equipped or tactically trained to survive on the AirLand battlefield. The study also includes recommendations to overcome the perceived shortfalls in CSS equipment and training.

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## SECTION I

### Introduction

The principal mission of any combat service support (CSS) unit is to sustain the fighting capabilities of the combat force. On the AirLand battlefield CSS units will face a considerable challenge in seeking to accomplish this mission. Combat forces can be expected to conduct tactical operations requiring support from CSS units throughout the depth of the battlefield. Engagements between opposing forces will occur simultaneously in deep, close-in, and rear areas. Technological advances in warfare have greatly increased the mobility, lethality, and striking range of weapon systems, but these same advances have also increased requirements for support. To be responsive to the needs of the tactical force the CSS operators must have the ability to range the battlefield to include support to combat units in forward areas. To be effective in maintaining this forward support, CSS operators will have to possess the tactical skills necessary to survive the battlefield threat.

However, several factors combine to make CSS units more vulnerable than heretofore on today's battlefield. The first is the threat. The Soviet Union in its military doctrine and force structuring has placed great emphasis on developing multiple techniques and means to exploit deep into the enemy's rear areas. Interdicting lines of communications (LOCs) to disrupt the enemy's flow of materiel forward is a priority

objective of Soviet military operations. The U.S. Army experience of past wars with relatively secure rear areas from which to base logistical support is not going to be the case for CSS units in any future conflict with the Soviets.

The second factor is our rear battle doctrine. It relies upon a system of mobile reaction forces and static defenses to defeat the rear area threat. Reaction forces by design are committed to a situation after the fact, therefore, CSS units will initially be required to engage the enemy combat forces, a mission for which they are poorly equipped and inadequately trained.

Third, the development and fielding of survivable CSS equipment has not kept pace with weapons development in our combat units. CSS operators arm, fuel, and fix using tactical wheeled vehicles that are highly vulnerable to enemy weapons fire from small arms on up.

Fourth, CSS training has not placed adequate emphasis on developing tactical skills in CSS organizations or its soldiers. The concentration of effort in CSS training is on technical skill training. In the current peacetime environment the focus of CSS units is on day-to-day technical support requirements, leaving little time or priority for tactical training.

These factors, when taken in combination with the destructive potential of AirLand battle, its fluid and non-linear alignments of opposing forces, and the basic tactical vulnerability of logistical organizations, will threaten the

survivability of CSS units and significantly complicate their support missions on the next battlefield.

### The Problem

The purpose of this monograph is to examine the problem of tactical survivability of divisional CSS units on the AirLand battlefield. Specifically, I will discuss the adequacy of their equipment and training to survive against the tactical threat in a combat environment. The study assumes the threat projected by a European war-fighting scenario. CSS operations are discussed assuming a non-nuclear environment, although the threat use of nuclear weapons remains a planning consideration.

### Significance of the Problem

U.S. Army tactical experience in World War II, Korea, and Vietnam often dictated that a significant slice of the combat force be dedicated to protecting the operations of CSS units. It was not unusual for combat forces to be assigned the missions of defending logistical bases, escorting supply convoys, and securing from enemy interdiction the various lines of communications. A WW II description of the measures taken to protect the 6th Armor Division trains during movements in the Brittany campaign illustrates the point.

Initially, the division attached two battalions of anti-aircraft weapons to the division trains. Eventually an advance guard consisting of an

infantry company, minus two platoons and a platoon of light tanks was used. A platoon of infantry and a section of tank destroyers marched in the middle of the column. The rear guard consisted of a tank company, minus two platoons, and a platoon of infantry. Anti-aircraft sections were dispersed throughout the column. A section of light tanks was used to escort advance supply points.<sup>1</sup>

In the Korean War, after the successful landing at Inchon, UN forces found that, "...far to the south, guerrillas and remnants of North Korean II Corps continued operations in the [UN] rear areas. Although these forces were scattered...[they] posed a constant threat to UN supply routes. No truck convoy was safe from the marauders."<sup>2</sup> The U.S. 1st Marine Division was dedicated to fight these rear area enemy forces. In Vietnam "base camps occupied large areas which generated correspondingly large security requirements..."<sup>3</sup> General Bruce Palmer, Jr. cites the example of a separate infantry brigade that habitually kept almost one-third of its strength to provide security for the base camp from which it operated.<sup>4</sup>

In past wars experience showed that a loss in logistical support capability could translate into a loss in the tactical force's ability to project combat power. Therefore, combat units were habitually used to protect support functions. At the same time, it is also true that there is a cost associated with using

combat units to protect CSS units. The cost is the diversion of combat power that could be otherwise used to mass forces elsewhere on the battlefield. Department of the Army studies of logistical operations in these conflicts recognized this diversion of combat power and recommended increasing the capability of CSS units to assume the additional mission of their own security by training them to fight,<sup>5</sup> and by authorizing sufficient personnel and equipment to do the job.<sup>6</sup> However, these changes to the CSS force structure did not materialize, and if one examines closely the tactical training and equipment given CSS units today it appears that the lessons "learned" in our last wars will once again be learned in the next.

BG Kirk, U.S. Army (Retired), in his draft book Panzer-grenadiers, enjoins commanders to "Train your rear to fight alone. Diversion of combat battalions to that task will unacceptably reduce mass up front".<sup>7</sup> The recently published FM 90-14, Rear Battle, states that "Every unit in the rear area is responsible for its own defense". It goes on to discuss the concept of rear area units in mutually supporting base clusters that will forestall committing to rear area operations "combat forces until such time that a substantial enemy threat exists".<sup>8</sup> Given the correlation of forces in Europe between NATO and the Warsaw Pact, generating adequate combat power for conducting close-in and deep operations will tax the combat capabilities of U.S. tactical units. BG Kirk's advice to "train your rear to fight alone" appears sound.

Additionally, it is not only for the rear area logistical support bases that CSS tactical training must take place. The charge to logistical planners and operators is to be able to fuel, fix, arm, and man combat equipment "as close to the point of employment as possible".<sup>9</sup> Divisional CSS personnel with supply, maintenance, and transportation responsibilities will be required to perform mission tasks well forward on the battle-field. Mastery of individual tactical skills will be of paramount importance to the survival of these CSS soldiers.

The U.S. Army is operating in Europe today from what is considered an austere support base. In a recent statement given before the Senate Appropriations Committee Subcommittee on Defense, General Rogers, Commander-in-Chief of the United States European Command, identified as a major concern "the inadequate CSS structure available to sustain USEUCOM in the early days of a crisis or conflict.... Today, the Army's CSS structure is inadequate to support not only the early arriving POMCUS (pre-positioning of material configured to unit sets) units but also the combat forces currently forward deployed in Europe."<sup>10</sup> He went on to note that on the ground in Europe he had only 56 percent of the required CSS units, and that he needed more "people and facilities to guard, service, and repair equipment and to distribute supplies..."<sup>11</sup>

In the Army as a whole, the force structure trend has been to reduce CSS units and manpower spaces in favor of increases in combat unit strength.<sup>12</sup> This trend to streamline the CSS force

structure has made the need to improve the survivability of existing logistical units and soldiers in the support base even more important. Given the significance of CSS units in sustaining combat power, the austerity of the CSS force structure, the responsibility for self-defense, and the projected threat, it is imperative that CSS units have the tactical capability and skills to survive on the AirLand battlefield.

#### Methodology

In order to focus on the adequacy of equipment and tactical training for CSS units at divisional level the following questions will be addressed. What is the projected threat for divisional CSS units? What are the responsibilities of CSS organizations to respond to the threat? What are the shortfalls in CSS equipment and training? Based on these analyses, conclusions and recommendations on divisional CSS survivability will be made.



## SECTION II

### CSS Survivability

The interdiction of the enemy's supply lines has long been considered as a maxim of war by both military theorists and practitioners. In The Art of War, Jomini's one great fundamental principle of war is to throw the mass of one's forces successively "upon the decisive points of a theater of war, and also upon the communications of the enemy as much as possible without compromising one's own".<sup>1</sup> General Douglas MacArthur, who certainly followed this principle in landing at Inchon, stated that "The history of war proves that nine out of ten times an army has been destroyed because its supply lines have been cut off..."<sup>2</sup> Former German general officers and general staff officers from WW II with combat experience in Russia caution that an army must be prepared to fight in rear areas with adequate forces to protect the integrity of supply operations. They noted "It is a fact supported by many examples in military history that events and conditions behind the front lines have often failed to receive sufficient attention. In all but a few cases this has worked as a disadvantage to the front."<sup>3</sup>

However, despite the recognition of the importance of logistical support and its inherent vulnerabilities to attack, the general tendency of tactical commanders in the U.S. Army has been to focus on the close-in and deep operations of the combat force. Rear area operations have been considered as more a matter of

administration and logistical concern than as a matter of tactical concern. Even Clausewitz helps to foster this attitude when he writes, "One would not want to consider the whole business of maintenance and administration as part of the actual conduct of war."<sup>4</sup> Clausewitz considers logistics an important but preliminary activity quite different from war's main event, "the utilization of fighting forces."<sup>5</sup>

The technology of modern warfare with its highly mechanized forces and resource hungry weapon systems requires CSS units to be capable of going where the combat force goes in order to sustain tactical operations. As these CSS units move forward on the battlefield, the risks to survivability increase. Commanders in future conflicts may find that CSS survivability has become the driving factor affecting continuous support, which significantly influences their tactical plans and ultimate battlefield success.

### The Threat

Soviet military doctrine is built around highly mobile forces that can concentrate quickly, move rapidly, and strike deep into rear areas. Once Soviet forces are committed to military action, their goal is the rapid defeat of enemy forces ideally before the enemy is able to fully mobilize. Using armor-heavy combined arms concentrations, Soviet forces will try to rupture or bypass enemy defenses in order to penetrate into and exploit through the rear areas. To help make the front line advance of their combat forces more effective, the Soviets have

developed the weapons and forces to attack simultaneously on and across the forward line of troops (FLOT). The attacks aimed at the enemy's rear areas may be independent actions, or they may be coordinated maneuvers designed to assist the advance of attacking forces in the main battle area.<sup>6</sup>

For U.S. Army armored and mechanized divisions, the division rear boundary is normally represented as extending 50-65 kilometers behind the forward edge of the battle area (FEBA), and the brigade rear area typically extends 15-20 kilometers behind the FEBA. FM 90-14, Rear Battle outlines a variety of threat forces that could be employed in these rear areas. They include airborne, air assault, and heliborne units; special operations units; reconnaissance units; deep cover agents; and ground maneuver forces consisting of either second echelon forces or an operational maneuver group (OMG). The Soviets are also capable of supporting rear area combat operations with artillery, air attack, radio-electronic combat (REC), and nuclear and chemical assets.<sup>7</sup>

It will be useful for discussion later to explore some of the basic characteristics of each threat likely to be applied against divisional CSS units. Soviet airborne forces consist of elite troops trained for both airdrop and heliborne assault missions. At tactical level a reinforced company or battalion will normally assault against a specific objective designed to facilitate the advance of attacking ground forces.<sup>8</sup> An airborne battalion consists of three airborne companies. Each

airborne company is equipped with air droppable light armored vehicles (BMDs), and a variety of weapons to include assault rifles, light machine guns, automatic grenade launchers, anti-tank guided missiles (ATGMs), anti-tank grenade launchers (RPGs), and shoulder fired surface-to-air missiles (SAMs).<sup>9</sup>

Soviet air assault brigades have been formed at front level and air assault battalions appear at army level.<sup>10</sup> The brigades consist of two BMD equipped battalions and two parachute battalions. The equipment for a Soviet air assault brigade includes: 64 BMDs, six 120 MM mortars, 9 ATGMs, 150 RPGs, and 45 SAMs. An air assault brigade is able to operate out to 150 kilometers beyond the FLOT, while air assault battalions operate out to a distance of 50-75 kilometers beyond the FLOT.<sup>11</sup>

Heliborne operations are designed to insert Soviet motorized rifle forces of battalion size or smaller at a depth that normally remains within range of Soviet divisional artillery to seize key terrain (such as a bridgehead) or to conduct reconnaissance, ambush, sabotage, and deception operations.<sup>12</sup> Each Soviet motorized rifle division (MRD) and tank division (TD) has at least one motorized rifle battalion that has received specialized training to conduct heliborne operations. In addition, the Soviets claim to be able to prepare and train any motorized rifle battalion (MRB) for heliborne operations within 8-10 hours.<sup>13</sup> Most heliborne operations are conducted without transporting light armored vehicles, which limits the ground mobility of the inserted force. Therefore these operations are

usually planned to be executed at a limited tactical depth on the battlefield to enable link-up with the advancing Soviet ground force within only a few hours.

Special operations forces include highly trained special purpose forces consisting of Soviet officers and senior NCOs with skills in language, demolition, communication, and foreign weapons.<sup>14</sup> These individuals will deploy into NATO at the outbreak of hostilities in small teams to destroy specific military targets, to conduct reconnaissance, and to create as much confusion as possible in the enemy's rear areas.<sup>15</sup> Deep cover agents living in NATO countries have also been trained by the Soviets to conduct clandestine operations of all types and will be activated for subversive operations in rear areas as hostilities commence.<sup>16</sup> Conservative estimates currently place over 29,000 Soviet and Warsaw Pact controlled agents in NATO.<sup>17</sup>

Soviet second echelon ground forces have the mission to exploit through penetrations in the enemy's defense made by the first echelon forces. These second echelon forces will seek to destroy enemy forces and targets in depth. OMGs at army level consist of a reinforced MRD or TD. At front level the OMG may consist of a two or three division army group. The OMG's mission is to conduct "high speed, large scale raid and exploitation operations deep in an enemy's rear area."<sup>18</sup>

Soviet artillery can support rear area operations to a range of 30-40 kilometers. Artillery fire can be augmented with missiles and rockets using conventional, chemical, and nuclear

warheads to ranges between 70-900 kilometers.<sup>19</sup> Air attack capability in support of rear area operations includes fighter bombers, tactical aircraft, attack helicopters, and reconnaissance planes. Radio-electronic combat (REC) includes a Soviet capability for jamming, direction finding, and deception. The Soviets REC capability acquires signal intelligence that can be used to target suppressive fires on rear area command and control elements by means of artillery, missile, and air strikes.<sup>20</sup>

The threat forces capable of interdicting divisional rear areas in advance of main body ground forces represent a formidable tactical challenge. U.S. Army AirLand battle doctrine looks to both deep and rear operations to create the conditions that will lead to the success of the close-in fight. The sheer number and variety of Soviet threat forces capable of disrupting CSS operations in the rear will make effective support of the close-in fight difficult. Tactical ability on the part of CSS units will be crucial in helping to minimize the impact of threat forces and in keeping open lines of logistical support. It will be useful in this context to look now at the tactical responsibility of CSS units as described in the U.S. Army's rear battle doctrine.

### Tactical Responsibility

To provide some sense of structure and order of magnitude to the rear area threat, three levels of threat activity in rear area operations have been established. FM 90-14, Rear Battle

lists the threat levels as follows:

Level I -Enemy controlled agents activity.

-Sabotage by enemy sympathizers.

-Terrorism.

Level II -Diversionary and sabotage operations conducted by unconventional forces.

-Raid, ambush and reconnaissance operations conducted by combat units.

-Special missions or unconventional warfare (UW) missions.

Level III (battalion size or larger)

-Heliborne operations.

-Airborne operations.

-Amphibious operations.

-Ground force deliberate operations.

-Infiltration operations.

CSS units have the basic responsibility for their own tactical self defense, and when confronted by a level I threat they are expected to be able to defeat it.<sup>21</sup> Military Police (MP) units provide mobile reaction forces to defeat level II threats. When the threat exceeds the tactical capability of both MP and CSS assets, combat forces are assigned to fight the rear battle.<sup>22</sup>

Being able to evaluate their rear area situation accurately is going to tax the "coup d'oeil" of commanders at all tactical levels. At any one time U.S. rear area units could find

themselves facing elements from one or more of the threat levels. The different levels of threat will occur in no particular order and threat actions in rear areas may or may not be in support of each other.<sup>23</sup> The ability to build an accurate intelligence picture of threat activities is going to be crucial to the effective employment of scarce rear area combat capability.

The cornerstone of the rear battle doctrine is the base cluster concept. A base cluster consists of rear area units whose base defenses are geographically grouped together to provide mutual support.<sup>24</sup> A base cluster, unlike a unit's base defense, has no clearly defined perimeter. Each base cluster will establish a base cluster operation center (BCOC) to coordinate and integrate each unit's base defense plan into the base cluster's defense plan. The base cluster will normally be created around a battalion-sized or larger unit due to the BCOC's requirement to operate 24 hours a day and to carry out staff functions associated with rear battle activities.<sup>25</sup> For divisional CSS units, base clusters will be created around the division support command (DISCOM) in the division support area and around the forward support battalion in the brigade support areas. The BCOC commander is normally the senior CSS commander within the base cluster. He is responsible for upgrading or downgrading his threat level posture, and he will also coordinate with either MP or combat forces as appropriate to defeat threat levels beyond his cluster's defensive capability.

The concept of forming base clusters by integrating mutually



supporting base defenses mandates that CSS units become proficient in conducting tactical operations. The minimum requirement is for CSS units to meet level I threats which, in turn, dictates training in perimeter defense and physical security measures. However, the tactical problem that CSS units will face is a more complex one. The nature of the threat forces and strategy will lead to CSS units facing level II and level III threats at least for that indeterminate period from identification of the threat to the arrival of the level II and level III reaction forces. Hence the need exists to train CSS units to operate in such an environment. If one also considers that incursions into rear areas may portend the advance of the enemy's main effort forces in the rear battle area, a tactical commander could be reluctant to commit significant combat power to respond to rear area incursions until the overall threat can be clearly defined. Under such circumstances, it will be essential for CSS units to have organic combat power and training to survive all levels of rear area threats for at least an interim period between the engagement with threat forces and the arrival of level II and level III reaction forces.

### SECTION III

#### CSS Posture

In 1931 Mikhail Tukhachevskiy, a Marshall of the Soviet Union, wrote that, "The rear area establishment should be so organized, armed, and trained as to be capable at all levels of fighting airborne enemy motorized assault forces."<sup>1</sup> He further stated that "The expanded rear areas of today and their continuous vulnerability to air attack require...intensified organizational work with respect to rear areas, setting up independent defenses against airborne assault landings and tank breakthroughs, as well as general antiaircraft defense measures..."<sup>2</sup> The Russian Tukhachevskiy's rear area concerns of 1931 remain rear area concerns for the U.S. Army in 1985. CSS units comprise a large part of the force which operates in divisional and brigade rear areas, and as such CSS units need to be "organized, armed, and trained" not only to sustain the combat force, but also, through an adequate self defense capability, to survive the enemy threat.

#### CSS Equipment

Equipment developments for CSS units have normally focused on the impacts of change on overall logistical capabilities almost to the exclusion of any analysis dealing with the impacts that the change will have on survivability of CSS units in a combat environment. A 1984 Armor Conference White Paper

examining "Combat Service Support-At War" made the observation that "As the fighting force transitions with the introduction of powerful new weapon systems, CSS improvements have not kept pace."<sup>3</sup> As an example, the Armor Conference White Paper cited the need for a resupply vehicle with armor protection, stating "...without such vehicles, optimum potential [for] operational effectiveness of new close combat fighting vehicles cannot be achieved. Attrition of the current fleet of wheeled resupply vehicles would begin with the first requirement to support in combat."<sup>4</sup>

The need for an armored resupply vehicle is not a revolutionary thought, but it points out an important problem in fielding CSS equipment. It is only when the projected survival rate for forward area resupply vehicles is examined that such vehicles begin to make sense and appear as affordable. Development of all CSS equipment and training must incorporate a tactical focus on survivability.

The U.S. Army Logistics Center (LOGC) recently completed a study "to determine whether CSS units are sufficiently armed to survive the Rear Battle...."<sup>5</sup> The findings in the LOGC study concluded that CSS units are not sufficiently armed to survive the rear battle. The LOGC effort drew heavily upon a previously conducted study by VII Corps entitled "The Rear AirLand Battle."<sup>6</sup> The VII Corps study used a computer assisted map exercise and a modification of the McClintic Theater Model Wargaming Simulation to evaluate the self-defense capability of rear area corps units

against a threat airborne battalion.<sup>7</sup> The VII Corps study found that dramatic improvement in the self-defense capability of corps rear area (CRA) units could be achieved not by adoption of any one particular measure, but rather by adoption of a combination of measures. These include: (1) establishing an effective command and control system for rear battle activities, (2) upgunning CS and CSS units, (3) training CS and CSS units in base defense, and (4) providing adequate MP and field artillery to support the rear battle.<sup>8</sup> The LOGC study generally supported these findings and added a finding that recognized the need for CSS units to have night vision devices and ground sensors.

The LOGC study recommended a "menu" of items to upgun and enhance the rear battle defense capability of CSS units. In making these recommendations, the LOGC study noted that much of the current CSS defensive capability depended on the M16 rifle. The LOGC used a "menu" approach in the recommendations because of the wide variety of CSS units tables of organization and equipment (TOE). The LOGC "menu" of items shown below<sup>9</sup> would have to be adapted as appropriate for each CSS unit.

1. Weapons- (a-c, TOE changes; d-e, non-TOE items).
  - a. M-249 Squad Automatic Weapon (SAW). Sustained rate of fire is three times that of the M16A1. It has a range of 850 meters. Basis of issue is one per ten enlisted personnel in TOE category II units and one per twenty enlisted personnel in category III units.

- b. .50 cal MG, with vehicle and ground mounts.

Cyclic rate of fire is 500-650 RPM with an effective range of 1800 meters. The basis of issue is one per six 2 1/2 ton or larger trucks, except in motor transport units. In motor transport units the basis of issue is one per ten 2 1/2 ton or larger trucks. Each recovery vehicle would also be equipped with a .50 caliber machine gun.

- c. 40mm MK-19 grenade launcher. Cyclic rate of fire is 325-375 RPM. It has an effective range of 1650 meters and maximum range of 2200 meters. It can defeat light armor and is also effective against helicopters. The basis of issue is one per company with TOE strength of 75 or less, two per company with TOE strength of 76-150, and three per company with TOE strength of 151-250. One additional weapon will be included for each 150 personnel or major fraction thereof in excess of a unit strength of 250. This weapon is also authorized one per detachment, platoon, or team with a TOE leadership position of a commissioned or warrant officer when the organization habitually

operates independently.

- d. M72A3, 66MM Light Antiarmor Weapon(LAW).

Range of 325 meters, system to be replaced by VIPER. Basis of issue is determined by the theater commander.

- e. M18A1 claymore antipersonnel mine. Range 50 meters. Basis of issue determined by theater commander.

2. Weapons Sights and Night Vision Devices:

- a. AN/TVS-5 night sight. One per .50 cal MG and MK-19. Provides a visibility range of 1200 M (moonlight)/1000 M (starlight).

- b. AN/PVS-4 night sight. One per M-60 MG. Provides a visibility range of 700 M (moonlight)/350 M (starlight).

- c. AN/PVS-5A individual night vision device. This is a head-mounted device with built-in infrared source. It provides a range of 150 meters.

- 3. Platoon Early Warning System (PEWS). Detects, locates, and classifies targets up to a distance of 1500 meters. Each set has two receivers and ten detectors that can identify ground vibrations or magnetic signatures from vehicles.

4. Communications equipment:

- a. Radio Set: AN/VRC-46. One per company for operation in base cluster net.
- b. Radio Set: AN/PRC-77. One per company for mobile perimeter defense operations.
- c. Antenna Group: OE-254. One per AN/VCR-46 in the base cluster net. The antenna is used to extend the range of the tactical FM net radio set from 16 miles out to 36 miles in average terrain.<sup>10</sup>

There is little doubt that, given the current limitations of weapon systems within CSS units, the acquisition of the LOGC's "menu" of recommended items would enhance the survivability of CSS units. It is also important to recognize from the viewpoint of combat multipliers that the LOGC study recommendations include not just weapons, but also communications equipment, night sights, and early warning devices to improve the rear battle command, control and intelligence capability of CSS units. Given this equipment and proper training, "upgunned" CSS units will be better able to carry out the security, surveillance, and defense missions implied in their rear battle responsibility to defeat the projected level I threat. The question that remains for the LOGC and rear battle doctrine writers to answer becomes, "Will these additional items enable CSS units to survive level II and level III threats until reaction forces can be deployed?" It is the opinion of this writer that for

divisional CSS units the "upgunned" equipment alone will not enable CSS units to survive the projected Soviet rear area threat. Additional survivability measures need to be taken to include: (1) the integration of anti-tank systems, air defense systems, and field artillery support into all base defenses, and (2) improvement to mobility and armor protection of forward area resupply vehicles. These measures should not be viewed as an attempt to create CSS units as "surrogate" combat arms forces, but simply reflect the reality of the AirLand battle. These measures may also be viewed by some as detracting from the support mission which is the primary focus of CSS units. ... However, without added survivability the question of support on the battlefield may quickly become moot as threat forces operating in rear areas attrit our support capabilities.

#### CSS Training

FM 100-5, Operations states, "Soldiers who are always required to do it right in training will instinctively do so in combat."<sup>11</sup> For the CSS soldier, "doing it right" applies to both technical and tactical competency. Logisticians need the technical skills to sustain the combat force, and the tactical skills necessary to survive in a combat environment. This technical versus tactical split in training focus must be properly balanced to produce battlefield capable CSS units.

However, today the U.S. Army CSS community may be overly committed in its training to the technical side of logistics



support. This technical commitment results in part from the rapid changes brought on by the Army's force modernization programs. The advanced technology of modern weapons systems requires that the soldiers who service these systems within the support base be well versed in matters of technical support. This is a considerable challenge when one looks at the volume of new equipment in the Army inventory.

The technical focus is also a product of the way logisticians are usually evaluated in peacetime. Backlog rates, demand accommodation, supply availability, readiness percentages, and other such support measures are the tools by which CSS performance is rated. CSS units do deploy and support from remote field locations in training exercises, but the tactical threat played for rear areas rarely constrains CSS operations. The focus all too often remains on providing technical support to the combat force from what is in essence a secure rear area.

Given the CSS orientation on technical support, the question arises as to how CSS units will gain the tactical level of proficiency required of them for the AirLand battle. The responsibility for tactical training of a CSS unit and its soldiers lies within the CSS unit itself. The Army Training and Evaluation Program (ARTEP) and the Skill Qualification Test (SQT) material provide the foundation upon which CSS units base their training. The ARTEP provides a mechanism for evaluating in collective training the capability of a CSS unit to carry out mission-oriented tasks "to standards necessary to survive in

combat."<sup>12</sup> The ARTEP is the primary vehicle around which the CSS unit centers its tactical training. The ARTEP includes such tactical tasks as (1) establishing a unit defense; (2) camouflage activities; (3) convoy and movement operations; (4) responding to ground, artillery, and air attacks; (5) handling enemy prisoners of war (EPW); (6) intelligence collection; (7) implementing operational security (OPSEC) measures; (8) operating in an EW environment; and (9) conducting NBC defense.

However, there are a number of shortcomings in CSS ARTEPs. To begin with, there are disparities among CSS unit ARTEPs with respect to common tactical tasks. For example, in convoy operations a common tactical task is to 'defend against ground ambush when the road is not blocked.' In the ARTEP for the Supply Company of a Forward Support Battalion, the training and evaluation standard states the following:

Vehicles which pass through the kill zone and become separated from the remainder of the convoy proceed to a point which can be effectively defended and stop. Personnel immediately establish a defensive perimeter under the command of the senior member present. The element commander immediately contacts the column commander in the most expedient manner.<sup>13</sup>

In the ARTEP that covers the Light Maintenance Company and Heavy Maintenance Company of the Main Support Battalion, the

training and evaluation standard reads:

Vehicles which pass through the kill zone and become separated from the remainder of the convoy proceed until directed to halt. The element commander immediately contacts the column commander in the most expedient manner.<sup>14</sup>

In yet a third CSS ARTEP covering the Transportation Motor Transport Company, the training and evaluation standard again differs from the previous two. It states:

Vehicles which pass through the kill zone and become separated from the remainder of the convoy proceed to a point which can be effectively defended and stop. Personnel immediately establish a defensive perimeter under the command of the senior member present. The element commander immediately attempts to contact the column commander in order to determine if fire is to be placed upon the threat force.<sup>15</sup>

The Quartermaster School, the Ordnance Center and School, and the Transportation School respectively developed the training and evaluation standards above as the proponent agencies for their branch ARTEPs. In each case the guidance on how to respond

to a convoy ambush is slightly different. This type of disparity appears in the CSS ARTEPs not only in the training and evaluation standards but also in tactical tasks to be performed.

Rear battle doctrine for CSS units depends upon base defense in mutually supporting base clusters. If a base cluster is going to be able to operate successfully, it is critical that CSS units share a common understanding of how to operate tactically in a combat environment. This becomes even more important when it is recognized that in the tailoring of logistical support, CSS units without the benefit of habitual association will be operating together in base clusters. The CSS ARTEPs should be reviewed jointly by the CSS service schools and other TRADOC proponents to insure continuity of tactical tasks and standards that support rear battle doctrine.

A second area of concern with CSS ARTEPs is the composition of the opposition forces (OPFOR) normally specified for company evaluation. The OPFOR is usually comprised of a platoon or smaller sized element. Based upon the projected Soviet threat to rear areas, training should include operations against larger threat elements. Training scenarios in which the threat force exceeds the defense capability of the CSS unit would be useful in determining the effectiveness of the response of MP and combat unit reaction forces. This evaluation should include how well the defending unit coordinated with the relieving reaction force.

A third factor to consider in CSS ARTEPs is the composition of the external evaluation teams. For CSS units they are

comprised of CSS officers and senior NCOs with the technical background of the unit being evaluated. The inclusion of a combat arms officer or senior NCO on the evaluation team would provide expertise in evaluating the tactical components of the ARTEP tasks. This action would also serve to give combat arms personnel a greater appreciation of the organization and function of CSS units.

Another argument for adding combat arms expertise to external ARTEP evaluation is that a number of factors currently work against CSS soldiers obtaining the skills to be good tacticians. These factors include: (1) a lack of combat experience at the company level; (2) tactical training in CSS service schools limited in scope and completely subordinated to technical training; (3) Regular Army CSS officers who no longer serve combat arms details, losing a valuable opportunity for gaining tactical experience; (4) assignment patterns for CSS soldiers which result in their spending large portions of their careers in non-tactical support units; (5) assignment patterns for officers which dictate that the bulk of their career will be spent in other than tactical combat service support organizations.

The factors listed above also contribute to the lack of focus on tactical training in CSS units. It is human nature for individuals and organizations to concentrate efforts on those skills that they do best and upon which they are evaluated. In the case of CSS units, concentration of effort clearly lies in rendering technical support.

Major Wayne M. Hall, in a recent Military Review article on "A Critique of the Training Doctrine Fit", makes the argument that "...the officer corps generally is not mentally prepared to implement AirLand Battle doctrine [and that]... the officer corps will remain unprepared to implement the doctrine precisely because of a lack of adequate mental preparation for war."<sup>14</sup> This argument holds true in the case of technically oriented CSS officers. The ability to provide support on the fluid, non-linear, destructive battlefield of the future is going to be a function of a CSS unit's ability to survive as it carries out its mission of sustaining the combat force. The LOGC's "upgun" initiatives and the current rear battle doctrine are steps in the right direction. However, much more is required in the way of command emphasis at all echelons to insure that CSS units are ready to execute proficiently their tactical responsibilities as part of the combined arms team.

One way to show this command emphasis throughout the logistics community would be to develop an expert tactical logistician's badge to be awarded for demonstrated individual proficiency similar in concept to those now awarded under the expert infantry badge (EIB) program and the expert field medical badge (EFMB) program. The purpose of an expert tactical logistician's badge (ETLB) program would be to develop and identify CSS soldiers who are tactically proficient and capable of performing basic logistic support functions in a field environment. By concentrating on developing individual tactical

skills in CSS soldiers, the ETLB program would produce CSS trainers who are tactically qualified. Overall, such a program would create a needed concentration on the tactical side of logistical support.

The following brief comments outline a subject area structure for the ETLB program. In drawing from the EIB and EFMB programs, the ETLB program would be designed to incorporate performance oriented testing in common soldier tasks. These include: (1) map reading; (2) communications; (3) survival techniques; (3) land navigation; (5) NBC operations; (6) first aid; (7) weapons qualification; (8) a forced road march; (9) the Army Physical Readiness Test. A comprehensive written test would serve to establish general logistical knowledge of forward support procedures in a tactical field environment. Finally, additional performance testing for award of the ETLB would cover: (1) aerial resupply methods; (2) driver qualification (2 1/2 ton truck); (3) convoy operations; (4) perimeter defense and physical security measures; and (5) fire support coordination. The tactical skills listed above are not intended as all inclusive, but they do provide a tactical foundation for greater survivability of logistical support on the AirLand battlefield.

## Section IV

### Conclusions

This monograph has examined the hypothesis that divisional CSS units are not adequately equipped or tactically trained to survive on the AirLand battlefield. In exploring this issue the study examined (1) Soviet threat forces capable of interdicting divisional rear areas; (2) the U.S. Army's rear battle doctrine outlining tactical responsibilities for CSS units; and (3) the tactical adequacy of current CSS equipment and training. Based upon the analysis of these factors, it is clear that divisional CSS units are not adequately equipped or tactically trained to survive on the AirLand battlefield.

The circumstances that have led to this conclusion can be summarized as follows. The Soviet Union has continued to modernize and expand that portion of its military force structure that can be used to interdict CSS operations in divisional rear areas. At the current time the U.S. Army has responded by developing a rear battle doctrine that relies upon MP and combat reaction forces to defeat the level II and level III rear area threats. Divisional CSS units will, by design of the doctrine, find themselves initially engaging significant threat forces, at least until such time that the reaction forces are able to respond. The mobility and firepower that the threat can insert into rear areas far surpasses the current tactical capability of CSS units.



Indicative of this shortfall is the fact that CSS tactical equipment and training has not been adjusted to meet the requirements of the AirLand battle environment. It is imperative that CSS equipment be consistent with the survivability, mobility, and communications ability of the supported force. Training in CSS service schools, while continuing to produce technically competent soldiers, must also incorporate tactical training that builds upon and adds to their basic soldier skills. This focus on tactical training must carry over into divisional CSS units in conducting support exercises that portray realistic tactical threat environments. In short, divisional CSS unit survivability is a function of how well a CSS unit is equipped, trained, and organized to operate tactically as a member of the combined arms team.

## Recommendations

Based on the conclusions of this study the following recommendations are presented:

- Approve and field the "menu" of items recommended by the LOGC's "upgun" study, but consider adding greater organic anti-armor and air defense capability for CSS units.

- Develop and field forward area armored resupply vehicles for brigade level logistics support that are capable of surviving the indirect fire threat.

- Review CSS ARTEPs to develop coordinated CSS guidance on common tactical tasks and standards.

- Add combat arms evaluators to provide expertise in tactical areas for external ARTEP evaluations.

- Include ARTEP training against larger than platoon sized OPFOR elements to exercise operations with MP and combat unit reaction forces as specified in current Rear Battle doctrine.

- Develop and approve implementation of an expert tactical logistician badge program to emphasize mastery of those combat survival skills necessary to conduct logistical support on the AirLand battlefield.

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